

Remarks

This Amendment and Response is responsive to an Action mailed by the Office on February 10, 2004. Claims 44-50, 57-59 and 64-76 are pending in the application, claims 44 and 57 being independent. Claims 44-50, 57-59 and 64-76 stand rejected.

In the forgoing amendments, claims 44 and 57 have been amended. No new matter has been added. Applicant respectfully requests entry of the foregoing Amendments and reconsideration of the Application in light of the amendments above and the remarks below.

I. Examiner Interview

Applicant gratefully acknowledges the courtesies extended to his undersigned representatives by Examiner Nguyen during a telephone interview on May 13, 2004. Claim 44, Adelstein and Rosen were discussed during the interview,. As noted during the Examiner Interview, in one embodiment (see, e.g., FIG. 2), the central members are links 50a and 50b, which are coupled to member 40 via object couplings 47a and 47b, respectively. These examples of the central members are unlike inner shaft 30 and outer shaft 18 of Rosen, which are concentrically and slidably coupled to each other to form a telescoping member.

II. The Claims are Patentable over Adelstein Combined with Rosen

Claims 44-47, 57, 59, 64-67, 70, 72-73 and 76 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Adelstein (A Virtual Environment System For the Study of Human Arm Tremor) in view of Rosen (U.S. Patent No. 5,107,080).

Independent claims 44 and 57 recite a user object including an elongated portion, a closed-loop five member linkage, and at least one sensor. The closed-loop five member linkage includes “a serial-linked chain of a ground member, a first extension member, a first central member, a second central member and a second extension member, the first and second central members being coupled to the user object respectively via a first object coupling and a second object coupling such that the first and second central members are substantially non-parallel with respect to the elongated portion of the user object,” and is “configured to enable the user object to move in a first rotary degree of freedom, a second rotary degree of freedom and a translational degree of freedom.”

Adelstein discloses a five-link closed chain joystick mechanism. As shown in Figure 4.3 and stated on page 62, in the system of Adelstein, “the handle shaft is simply an extension of one of the links in the chain.” In other words, the handle shaft is monolithically formed with one of the central members (approximately between j_5 and j_4) such that an object coupling is not present.

Rosen discloses a damped hand control device, where a handle 28 in connection with an inner shaft 30 is coupled to yoke assemblies 34 and 36 that allow the handle to move or “slide” through two slots 34a and 36b, respectively. The inner shaft 30 is further in a concentric (or telescoping) configuration with an outer shaft 18.

Neither Adelstein nor Rosen, alone or in combination, discloses or suggests using **a first object coupling and a second object coupling** to couple the first and second central members of the closed-loop five member linkage to the user object, respectively, such that the first and second central members are substantially **non-parallel** with respect to the elongated portion of the user object, as recited in claim 44 or 57.

Thus, the invention as recited in independent claim 44 or 57 is not disclosed in or suggested by Adelstein combined with Rosen. For at least those reasons, independent claims 44 and 57 are allowable. Based on their dependence upon one of independent claims 44 and 57, dependent claims 45-50, 58-59 and 64-77 are also allowable. Applicant respectfully requests that the rejections be withdrawn.

III. The Claims are Patentable over Rosen Combined with Adelstein and Scott-Jackson

Claim 48 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Rosen in view of Adelstein and further in view of Scott-Jackson et al. (U.S. Patent 4,590,339).

For at least the reasons stated in Section II above, independent claim 44 is patentable. At least because claim 48 depends from independent claim 44, claim 48 is patentable as well. Accordingly, Applicant respectfully requests that the Examiner remove the rejection of claim 48.

IV. The Claims are Patentable over Adelstein Combined with Rosen and Tuason

Claims 49-50 and 74-75 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Adelstein in view of Rosen and further in view of Tuason (U.S. Patent 5,403,191).

For at least the reasons stated in Section **II** above, independent claims 44 and 57 are patentable. At least because claims 49-50 and 74-75 depend from one of independent claims 44 and 57, claims 49-50 and 74-75 are also patentable. Accordingly, Applicant respectfully requests that the Examiner remove the rejections of these claims.

V The Claims are Patentable over Adelstein Combined with Rosen and Massie

Claims 58, 68-69 and 71 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Adelstein in view of Rosen and further in view of Massie (U.S. Patent 5,625,576).

For at least the reasons stated in Section **II** above, independent claims 44 and 57 are patentable. At least because claims 58, 68-69 and 71 depend from one of independent claims 44 and 57, claims 58, 68-69 and 71 are patentable as well. Accordingly, Applicant respectfully requests that the Examiner remove the rejections of these claims.

CONCLUSION

All of the claims are in condition for allowance. Applicant believes that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

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